

2004 Traffic Engineering Conference

Asheville, NC

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The background of the slide is a photograph of a sunset or sunrise over a body of water. The sky is a deep blue with wispy white clouds. A bright, low sun on the left side of the frame creates a horizontal rainbow that stretches across the middle of the image. The water in the foreground is dark blue with small, shimmering ripples.

NCDOT Driveway Training Update

Driveway Training

- Training contracted through ITRE/NCSU
- Training began early February 2004
- Initial training completed late June 2004
- 14 sessions conducted statewide

Driveway Training

- Training set up to train NCDOT staff, local government staff and private sector involved in the driveway process
- 282 NCDOT staff trained
- 45 local and private sector staff trained
- A total of 327 attendees trained

Driveway Training

Training Content

- Introduction
- Major changes
- Manual overview
- Trip Generation/Traffic Impact Study
- Case studies/examples

Driveway Training

Major Changes

- Concurrent/coordinated review by government agencies
- Traffic Impact Study Requirement
- Major review threshold (15,000 vpd)
- Applicant appeals process

Driveway Training

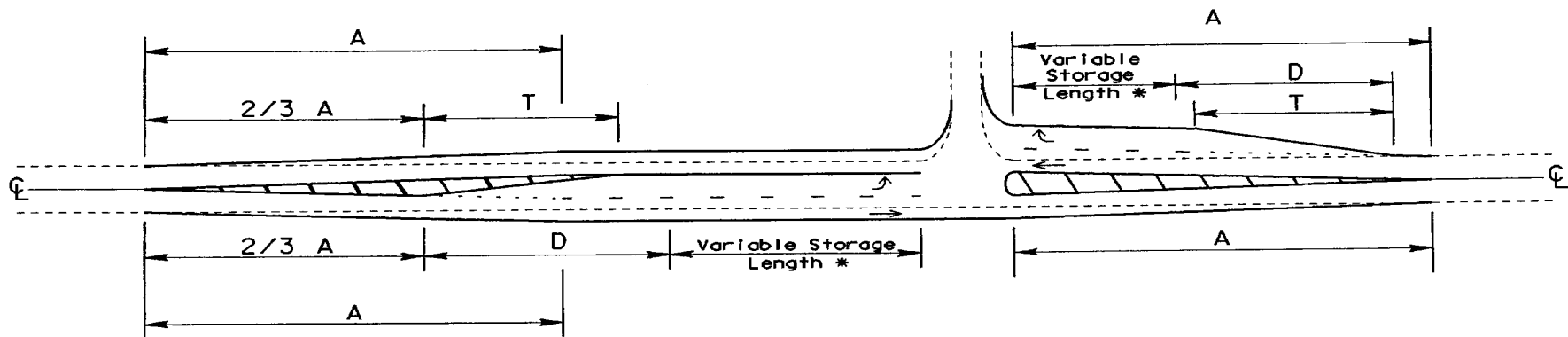
Major Changes Continued..

- Right of Way condemnation
- Access restriction/denial
- School review issues
- Construction resurfacing requirement
- Off site improvements

Driveway Training

Turn Lane Design/warrant

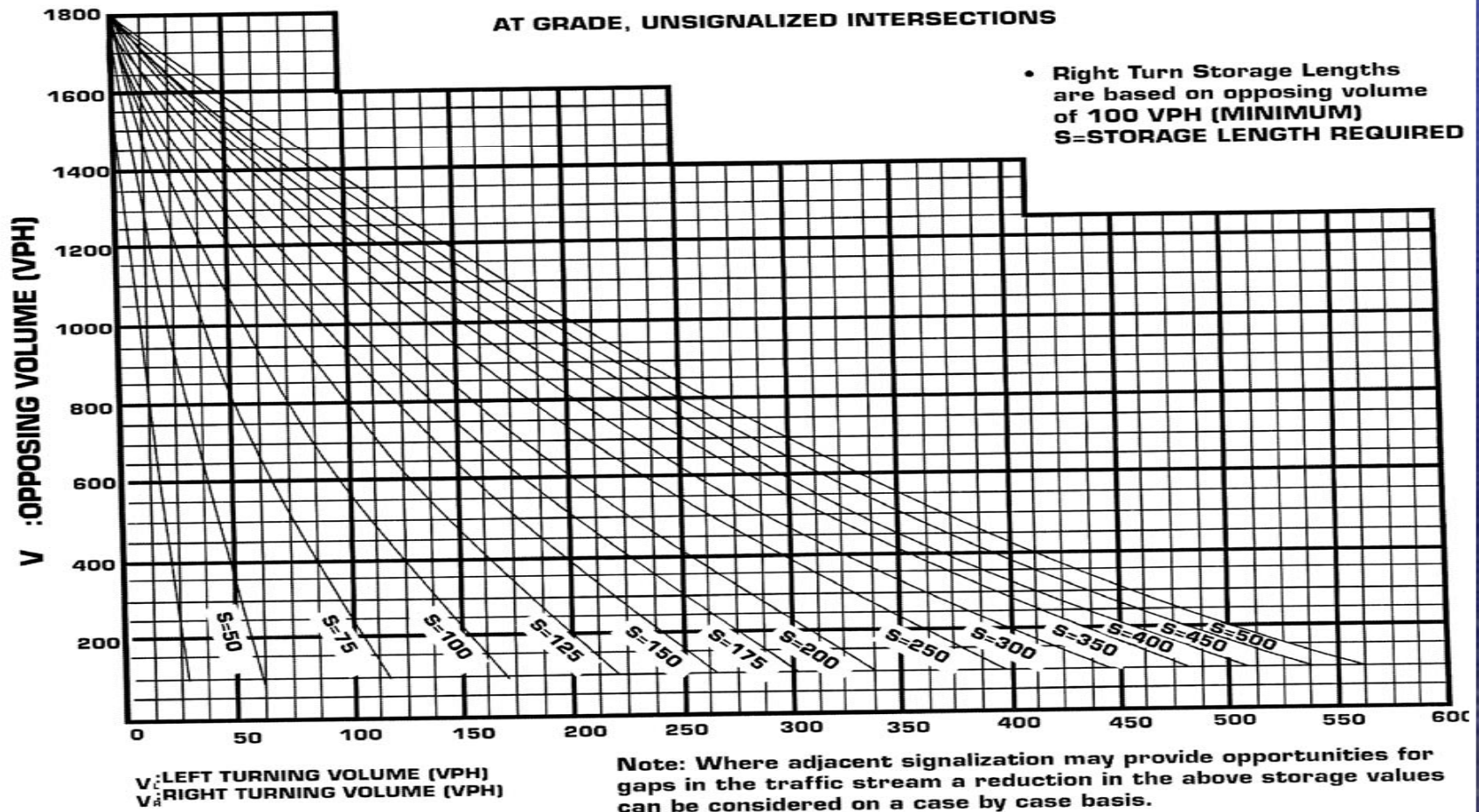
Symmetrical Widening



Design Speed (mph)	Posted Speed (mph)	Minimum Deceleration Length (D)	Desirable Deceleration Length (D)	Bay Taper Length (T)	Approach / Departure Taper (A)
30	≤ 25	100'	150'	75'	$A = WS^2/60$ (IF $S \leq 40$ MPH) $A = WS$ (IF $S > 40$ MPH)
35	30	100'	150'	75'	
40	35	150'	200'	100'	S = Design Speed W = Width of Lateral Shift
45	40	150'	250'	100'	
50	45	150'	300'	100'	* Storage length for waiting vehicles should be calculated based on the latest version of the Highway Capacity Manual or Policy on Street and Driveway Access to North Carolina Highways.
55	50	200'	500'	150'	
60	55	250'	575'	200'	

Driveway Training

Turn Lane Design/Warrant cont...



Driveway Training

Trip Generation

- Trip Generation establishes vehicle trip estimates
- Vehicle trip estimate used to determine TIS requirement, major review requirement, improvements needed, etc..
- District Office responsible for determining if application will require a TIS

Driveway Training

Traffic Impact Study (TIS)

- Detailed study of traffic impacts to the adjacent highway system
- Defines areas of poor operations and suggests mitigation measures
- Used to determine facility level of service and possible safety issues

Driveway Training

Case Studies

- Small residential subdivision
- Small commercial development
- Large regional development (Concord Mills mall)
- Large mixed use development (Meadowmont development)

Driveway Training

Participant Evaluations

- Overall training effectiveness rated 4.3 out of 5
- Instruction rated 4.3 out of 5
- Training material rated 4.4 out of 5
- Course content rated 4.3 out of 5

Driveway Training

Recommendations

- Make training available to more local government staff and the private sector
- Provide training to central office staff (Planning, Roadway Design, Traffic Engineering, Right of Way Branch, Construction staff, etc..)
- Setup schedule for recurrent training (new staff, refresher training, special needs, etc..)
- Consider developing short sessions geared directly toward specific Branch needs (Right of Way, Roadway Design, Planning, Resident Engineers, etc..)

Driveway Training

Stress Test

- Review the following picture of two dolphins. They are identical. Any slight variation noticed between the two dolphins is an indicator that you may be under some stress. The greater the difference noticed, the greater the stress you are under.





Any Questions ?